## **Appendix XXVI**

## **Places of Refuge Decision-Making**

## For Federal Region IX

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## **Guidelines for Places of Refuge Decision-Making**

**Region 9-Regional Response Team** 

April 2005

#### 1. Purpose and Scope

The purpose of the Guidelines for Places of Refuge Decision-Making (Guidelines)<sup>1</sup> is to provide:

- (1) A decision-making process (Appendix 1) to assist U.S. Coast Guard (USCG) Captains of the Port (COTP) in deciding whether a vessel needs to be moved to a place of refuge and, if so, which place of refuge to use; and
- (2) A framework for developing pre-incident information on potential places of refuge (see Appendix 3) for inclusion in appropriate sub area contingency plans.

These *Guidelines* address places of refuge decision-making throughout California. They are consistent with the December 2003 International Maritime Organization "Guidelines on Places of Refuge for Ships in Need of Assistance", and the Pacific States/B.C. Oil Spill Task Force "USCG Pacific Area/Pacific States/BC Oil Spill Task Force Area Plan Annex for Places of Refuge."

These *Guidelines* provide the COTP with a process that will help (1) expedite place of refuge decision-making, and (2) ensure stakeholders and other technical experts are consulted as appropriate. This in turn, helps ensure that the COTP has appropriate input, and the best available information, prior to making a place of refuge decision.

#### 2. Overview

A "place of refuge" is defined as a location where a vessel needing assistance can be temporarily moved to, and where actions can then be taken to stabilize the vessel, protect human life, reduce a hazard to navigation, and/or protect sensitive natural resources and/or other uses of the area (e.g., subsistence collection of mussels, commercial fishing, recreational boating). A place of refuge may include constructed harbors, ports, natural embayments, temporary grounding sites, or offshore waters. A vessel moved to a temporary grounding site must be removed after emergency actions are completed. There are currently no pre-approved places of refuge identified in California.

Leaking vessels may need to be brought into a harbor, or anchored or moored in protected waters to make repairs to stop the loss of oil or other hazardous substances. Likewise, vessels that have lost power or steerage may need to be brought into a place of refuge for repairs to prevent a shipwreck that could result in the loss of fuel, hazardous substances, or other cargo. Taking these actions would help prevent or minimize potential adverse affects to the public, the environment, and resource users.

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<sup>&</sup>lt;sup>1</sup> "Guidelines" mean the decision-making guidelines and matters set forth in this document. Notwithstanding any such words as "may," "should," "will," "must," or "shall," these guidelines are intended solely as factors that may be considered with respect to the exercise of judgment in deciding whether, where, and when to direct or permit a vessel to seek a place of refuge, as well as considered during the execution and implementation of any such decisions.

There is no single place of refuge suitable for all vessels and all situations. Decisions relating to places of refuge need to be made on an incident-specific basis because they encompass a wide range of issues that vary according to each situation, such as:

- Each incident is unique (e.g., vessel size, fuel carried, and reason for assistance).
- Information relevant to a specific location may be incomplete or out-of-date.
- Weather and sea conditions are variable.
- Fish and wildlife resources are mobile and may or may not be in an area as anticipated.
- > The locations of other activities (e.g., commercial fishing and subsistence use) vary over time.
- Resources (e.g., salvage vessels) available to respond to the incident vary over time.

Region 9 Regional Response Team (RRT9) supports the pre-identification of potential places of refuge that would be evaluated on an incident-specific basis (see Appendix 3). Pre-identifying a potential place of refuge does not require that those locations will be used as a place of refuge. TheRRT9 does not support the pre-approval of places of refuge in Alaska.

The best location for a place of refuge at any given point in time is dependent on incident-specific characteristics and real-time input by appropriate stakeholders (see Appendix 2). When considering places of refuge decisions, the COTP will need to consider multiple interests, including, but not limited to, operational, human health and safety, natural resources, security, resource users, land owners and land managers.

If time allows, the COTP will activate a Unified Command under the Incident Command System for the decision-making process. The decisions to direct or permit a vessel to seek a place of refuge, as well as the decisions and actions implementing those decisions, will be based on best available information and best professional judgment.

Decisions regarding places of refuges will consider each of the following options, as appropriate:

- ➤ The vessel remaining in the same position.
- > The vessel continuing on its voyage.
- The vessel moving to another location farther from shore.
- > The vessel being intentionally scuttled in deep water.
- > The vessel moving to a place of refuge.

The incident-specific places of refuge decision-making process, outlined in Appendix 1, recognizes that while the timeframe for the COTP to make decisions regarding places of refuge varies, it may be divided into the following three categories:

- (1) The vessel's situation requires immediate action, leaving no time for consultation with the State On-Scene Coordinator, natural resource trustees, or other appropriate stakeholders.
- (2) The vessel's situation requires rapid action, leaving time for consultation with the State On-Scene Coordinator, natural resource trustees, and other, but not all, appropriate stakeholders.

(3) The vessel's situation requires timely action, and there is time to consult with the State On-Scene Coordinator, natural resource trustees, and all other appropriate stakeholders.

#### 3. Authorities and Responsibilities

The decision-making process in these *Guidelines* is based on the following assumptions:

- ➤ The U. S. Coast Guard COTP (who is also the designated Federal On-Scene Coordinator) has authority to order vessels into and out of ports, harbors and embayments in order to protect the public, the environment, and maritime commerce². While the COTP retains ultimate authority for places of refuge decision-making, the COTP will consult with the State On-Scene Coordinator, natural resource trustees or other appropriate stakeholders in accordance with the *Guidelines* and will activate a Unified Command as appropriate.
- ➤ The State of California has authority to represent and protect the State's interest for incidents that may threaten or impact land, waters, and other resources within the territorial jurisdiction of the State, including State-owned tide and submerged lands. The Department of Fish & Game Office of Spill Prevention and Response (OSPR) provides the designated State On-Scene Coordinator.
- ➤ The U.S. Department of the Interior (DOI), the U.S. Department of Commerce, and U.S. Department of Agriculture each have authority to represent and protect their respective interests for incidents that may threaten or affect national parks, national marine sanctuaries, national wildlife refuges, national forests, other federal lands and their lands, waters, and other resources within Federal management authority, including Federally-owned submerged lands and Federally-owned shorelines, and to provide input to the COTP.
- ➤ OSPR and the California State Lands Commission have public trust responsibility for California's natural resources under their respective management authority and provide input to the State On-Scene Coordinator and the COTP.

<sup>&</sup>lt;sup>2</sup> It should be noted that there may be some maritime homeland security situations where the COTP may have access to Sensitive Security Information and/or classified information that may affect the final disposition of a vessel requesting "Force Majeur" or permitting a vessel to seek a place of refuge or approval of a salvage plan. It may not be practical or possible to share the specifics of this information with any or all interested stakeholders.

#### 4. Guidelines Development

The content of this document was developed by the Alaska Regional Response Team (ARRT) Places of Refuge Subcommittee (Subcommittee). Subcommittee members included representatives from the following entities: U.S. Coast Guard, Environmental Protection Agency, U.S. Department of the Interior, U.S. Department of Commerce, U.S. Department of Justice, Alaska Department of Environmental Conservation, Alaska Department of Fish and Game, Alaska Department of Natural Resources, oil spill cooperatives, industry production and transportation interests, Alaska marine pilot representatives, salvage operators, and regional citizens advisory councils. Following review and approval of the *Guidelines* by the Subcommittee, the document was submitted to the Alaska RRT for approval and inclusion in the *Unified Plan*. The *Guidelines* were approved by the Alaska RRT in October 2004.

This document was adopted by the Region 9 Regional Response Team for incorporation into the California Area Contingency Plans (North Coast, San Francisco Bay & Delta, Central Coast, Los Angeles/Long Beach (Northern & Southern Sectors), and San Diego. RRT9 extends their appreciation to the ARRT for their efforts in developing the original document and allowing RRT9 to adopt it.

## Incident-Specific Places of Refuge Decision-Making Process

#### **Step 1. Place of Refuge Requested.**

The U.S. Coast Guard Captain of the Port (COTP) receives a request from a vessel master or his/her representative<sup>3</sup> to move a vessel to a place of refuge<sup>4</sup>. The COTP will request the following information from that individual:

- The location of the place(s) of refuge (if a specific location is requested).
- The reasons the vessel needs assistance and the specific assistance required.
- A summary of medical and/or life safety issues associated with the incident, including the need to evacuate or quarantine individuals from the vessel.
- The status of the vessel (e.g., steering, propulsion, firefighting capability).
- If the vessel is flooding, status of the vessel's pumping system.
- > Types, quantities, hazards, and condition of petroleum products, hazardous substances, and/or other cargo onboard.
- The presence (or suspected presence) of rats, other invasive species, or diseases onboard the vessel.
- On-scene weather and water conditions and marine forecast.
- > Status of notifications completed by master (e.g., owners, operators, agents, Qualified Individual, class society).

#### **Step 2. Immediate Action Required by COTP.**

If the vessel's situation requires immediate action, leaving no time for consultation with the State On-Scene Coordinator, natural resource trustees, or other appropriate stakeholders, the COTP will:

J	moving farther from shore, being scuttled in deep water, or moving to a place of refuge.
	If evaluating a place of refuge, take into account, if possible, any potential places of refuge (PPOR) identified in the appropriate Subarea Contingency Plan (see PPOR Section H).
	INOTE: Selection of a place of refuse without incident-specific consultation with the State

[NOTE: Selection of a place of refuge without incident-specific consultation with the State On-Scene Coordinator, natural resource trustees, and other appropriate stakeholders may result in a decision based on incorrect and/or incomplete information.]

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<sup>&</sup>lt;sup>3</sup> In the event there are no individuals on board the vessel authorized to make the request, or the vessel has been abandoned, the COTP will be responsible (to the extent possible) for obtaining appropriate information requested in Step 1.

<sup>&</sup>lt;sup>4</sup> It is possible that the requestor will ask the COTP to identify a suitable place of refuge.

Ste	p 2, Cont.
	Permit or direct the vessel to stay in place, continue on its voyage, move farther from shore, intentionally ground, move to a place of refuge, or oversee scuttling the vessel in deep water.
	Inform the State On-Scene Coordinator, natural resource trustees, and other appropriate stakeholders of the decision.
	Activate, if necessary, a Unified Command to address any remaining issues.
Ste	p 3. COTP/Unified Command Evaluates Vessel Options.

### If the vessel's situation does not require immediate action, the COTP will:

Activate a Unified Command, if appropriate.
Require, if appropriate, the vessel master or owner/operator to contract with a salvor and/or pollution response contractor.
Dispatch, if safety considerations and time allows, an inspection team (i.e., the "Away Team") to board the vessel and evaluate the vessel's condition.

- Determine whether security partners should be notified, and if so, perform appropriate notifications.
- Review the appropriate Subarea Contingency Plan (see PPOR Section H) to determine whether potential places of refuge have been identified and if any may be appropriate for this incident.
- Contact the NOAA Scientific Support Coordinator to request the following information, as appropriate, for the option of the vessel staying in place, continuing its voyage, moving farther from shore, scuttling in deep water, or moving to a place of refuge:
  - ➤ Weather and sea states, including prevailing winds.
  - > Tides and currents.
  - Seasonal considerations.
  - ➤ Potential temporary grounding locations (if intentional temporary grounding is an option).
  - Trajectories for products already or potentially discharged or released from the vessel.

#### Step 3, Cont.

- Contact Federal and State natural resource trustees (APPENDIX XX of the RCP) to:
  - Request input on resources at risk for the options of the vessel remaining in the same position, continuing on its voyage, moving to another location farther from shore, being intentionally scuttled in deep water, or moving to a place of refuge.
- Contact appropriate Federal, State, and/or local safety and public health agency representatives to:
  - Request input on human health and/or safety issues related to individuals still onboard, individuals responding to the incident, and to the general public for the options of the vessel remaining in the same position, continuing on its voyage, moving to another location farther from shore, being intentionally scuttled in deep water, or moving to a place of refuge.
- Contact other appropriate stakeholders (APPENDIX XX of the RCP) as time allows to:
  - Request input on other stakeholder interests at risk for the options of the vessel remaining in the same position, continuing on its voyage, moving to another location farther from shore, being intentionally scuttled in deep water, or moving to a place of refuge.
- Contact vessel master, vessel owner, and salvage experts to request input on the following information, as appropriate:
  - The status/seaworthiness of the vessel, in particular buoyancy, stability, availability of propulsion and power generation, docking ability, and progressive deterioration.
  - The impending threat to the vessel or its product.
  - Availability of rescue tugs/tow vessels of sufficient size and power to aid the vessel in distress, including towing.
- ☐ Contact appropriate oil spill response organization(s) (OSRO) to provide input on:
  - Ability and/or feasibility to respond to discharges/releases from the vessel.

#### Step 4. COTP/Unified Command selects vessel option.

Based on the input received in Step 3, the COTP/Unified Command will evaluate the following to determine whether the vessel should proceed (or be taken to) to a place of refuge (which would be identified in Step 8), whether it should remain in place, proceed on its voyage, be intentionally scuttled in deep water, or move farther from shore:

#### Vessel Status and Risk Considerations

- > The kind and size of the vessel.
- The status/seaworthiness of the vessel, in particular buoyancy, stability, availability of propulsion and power generation, docking ability, and progressive deterioration.

#### Step 4, Cont.

#### Vessel Status and Risk Considerations, Cont.

- > Types, quantities, hazards, and condition of petroleum products, hazardous substances, and/or other cargo onboard.
- The presence (or suspected presence) rats, other invasive species, or diseases onboard the vessel.
- The impending threat to the vessel or its product.
- Weather conditions and forecasts.
- Master's ability to navigate the vessel or need for a pilot.
- ➤ Health of crewmembers and vessel passengers, including the ability to isolate and control the movement of passengers, crew, and airborne infection to populated areas.
- > Vessel traffic in the area.
- Ability of vessel to move from its current location, and estimated distance it could transit without further incident.

#### Response and Salvage Resources Considerations

- Availability of rescue tugs/tow vessels of sufficient size and power to aid the vessel in distress, including towing.
- > Salvage and spill response resources on-scene with the vessel and available during transit.
- Vessel traffic in the area.
- Access to pier or dock with repair facilities.

#### Human Health and Safety Considerations

- Safety of individuals still onboard the vessel, if any.
- > Safety of individuals performing salvage/response activities.
- > Public health and safety.

#### Natural Resources Considerations

- Sensitive resources (e.g., migratory birds, marine mammals, fish, threatened or endangered species, or historic properties).
- Sensitive areas (e.g., designated essential or critical habitat, eel grass beds, marshes, parks, and refuges).
- Others, as identified by Federal and State natural resource trustees.

#### Other Stakeholders Considerations

To be identified by stakeholders (examples include: subsistence use areas, mariculture sites, private lands, Native allotments, or commercial fishery areas).

#### Other Command Management Considerations

- Liability, insurance, and compensation issues and limits.
- Requirements of port or harbor authorities for financial responsibility and bonding.
- Media and public interest.

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# <u>Step 5. COTP/Unified Command evaluates potential places of refuge based on operational criteria.</u>

If the COTP/Unified Command determines that the risks of moving the vessel to a place of refuge are acceptable, the COTP/Unified Command will request the following information to help identify one or more potential place of refuge locations.

- Request from the NOAA Scientific Support Coordinator, the following information, as appropriate:
  - ➤ Weather and sea state including prevailing winds.
  - > Tides and currents.
  - > Seasonal considerations, such as ice.
  - Trajectories for products already or potentially discharged/released from the vessel.
- Request from appropriate pilot association or other mariners, the following port or anchorage criteria:
  - ➤ The type and size of the vessel and required "swing room" relative to the size of the place of refuge site.
  - Adequate water depth at mean low tide to accommodate the vessel.
  - Navigational approach, including vessel traffic and associated risks.
  - Pilotage requirements.
  - Anchoring depth and ground, or suitable docking facilities.
  - Availability of repair facilities.
  - Availability of cargo reception and storage facilities.
  - Land and/or air access.
  - Availability of required emergency response capabilities (e.g., firefighting, pollution. prevention, or law enforcement).

If appropriate, the following temporary grounding site criteria:

- ➤ Depth of water, not covering vessel deck.
- > Type of shore bottom.
- Navigational approach and pilotage requirements.
- Exposure of site to ocean waves/currents.
- Land and/or air access.
- Contact appropriate salvage experts (may include USCG and vessel salvage representative) to request the following information, as appropriate, for all options being considered:
  - Any new information on the status/seaworthiness of the vessel, in particular buoyancy, stability, availability of propulsion and power generation, docking ability, and progressive deterioration.
  - Any new information on the impending threat to the vessel or its product.

#### Step 5, Cont.

- Availability of rescue tugs/tow vessels of sufficient size and power to aid the vessel in distress, including towing.
- Available salvage and spill response resources.
- Availability of appropriate and compatible lightering equipment and receiving vessels.
- Availability of product storage (e.g., tanker barge, other vessels).
- > Availability of skilled labor and trained personnel.
- Access to repair equipment and facilities.
- Availability of cargo reception and storage facilities.
- > Salvage and response vessel access.
- ☐ Contact appropriate oil spill response organization(s) OSRO, if appropriate, to request:
  - Ability and/or feasibility to respond to discharges/releases from the vessel.
- ☐ Contact port or harbor authorities and/or land owners and land managers to request information on:
  - Permits or other requirements.

# Step 6. COTP/Unified Command selects potential places of refuge based on operational criteria.

Based on input received in Step 5, the COTP/Unified Command will select one or more potential places of refuge based on the following considerations:

#### Port or Anchorage Area Criteria

- The type and size of the vessel compared to the size of the place of refuge site.
- Adequate water depth at mean low tide to accommodate the vessel.
- Navigational approach, including vessel traffic and associated risks.
- Pilotage requirements.
- > Tides and currents.
- > Seasonal conditions, such as ice.
- Anchoring depth and ground, or suitable docking facilities.
- Availability of repair facilities.
- Availability of cargo reception and storage facilities.
- Land and/or air access.
- Weather and sea state including prevailing winds.
- Requirements from port authorities, area landowners/managers.
- Availability of necessary emergency response capabilities (e.g., fire fighting, pollution response, and law enforcement).

#### Step 6, Cont.

#### Temporary Grounding Site Criteria, if appropriate

- Depth of water, not covering vessel deck.
- Type of shore bottom.
- Navigational approach and pilotage requirements.
- > Seasonal conditions, such as ice.
- Exposure of site to ocean waves/currents.
- Land and/or air access.

#### Response, Salvage, and Repair Resources

- Available salvage and spill response resources.
- Salvage and response vessel access to the place of refuge.
- Availability of appropriate and compatible lightering equipment and receiving vessels.
- Availability of product storage (e.g., tanker barge, other vessels).
- Availability of skilled labor and trained personnel.
- Access to repair equipment and facilities.
- Availability of cargo reception and storage facilities.

#### Other Command Management Factors

- Liability, insurance, and compensation issues and limits.
- Requirements of port or harbor authorities for financial responsibility and bonding.
- Required notifications such as marine pilots, if applicable.
- > Public expectations and media outreach.

#### Step 7. Stakeholders provided with places of refuge options.

#### The COTP/Unified Command will provide the following information to natural resource trustees and other appropriate stakeholders:

- The list of potential places of refuge.
- Principal reasons for selecting each location (e.g., the vessel cannot travel far without sinking; or location of repair facilities).
- How the vessel will transit to the area (e.g., on its own power or pulled by a tug).
- Amount, location, and type of petroleum products and/or other hazardous substances remaining on the vessel; the likelihood of discharge/release; and the anticipated trajectory for any products released.
- The presence (or suspected presence) rats, other invasive species, or diseases onboard the vessel.
- What incident-related activities will occur in the place of refuge (e.g., underwater welding).
- What support vessels/aircraft will be required (e.g., salvage vessel).
- The estimated duration the vessel will be in that location.

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Anticipated weather and sea states (including prevailing winds), tides and currents, and seasonal considerations relevant to places of refuge options.

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#### Step 8. Stakeholders provide ranking of potential places of refuge options.

The COTP/Unified Command will request that natural resource trustees and other appropriate stakeholder groups:

- ➤ When possible, provide the COTP/Unified Command with a consensus ranking of the potential places of refuge, including any identified special considerations or constraints and any permits or other authorizations required.
- As appropriate, provide the COPT/Unified Command with documentation of considerations taken into account when arriving at a consensus position.

#### Step 9. Place of Refuge Selected.

Based on	input re	eceived in	Step 8,	the CO	TP/Unified	Command	will:

Permit or direct the vessel to move to a place of refuge.
Inform appropriate stakeholders of the decision and of any additional response-related assistance required.
Continue overseeing or directing, as appropriate, response activities until the case is closed.

#### Step 10. The COTP/Unified Command prepares documentation of the decision.

#### **Potential Places of Refuge Stakeholder Groups**

#### **Identification of Potential Stakeholders:**

This list identifies potential stakeholder groups throughout California. Before using this list for incident-specific places of refuge decision-making, check the appropriate Area Contingency Plan to determine whether specific stakeholders have been identified for a potential place of refuge. If so, use the specific list developed for that potential place of refuge. If not, use the list below as a guide for which stakeholder groups to consult.

#### Situation where full consultation is not possible:

When a vessel's situation allows time for consultation with some, but not all stakeholders, at a minimum, the COTP/Unified Command should contact:

- State On-Scene Coordinator
- Federal and State natural resource trustees
- Federal and State safety and public health agencies (if there is a risk to public safety and/or health)

As time allows, the COTP/Unified Command should also consult with Federally recognized tribes, and other appropriate potentially-affected stakeholders identified below.

#### **List of Potential Stakeholder Groups:**

- Federal natural resource trustees
- State natural resource trustees
- Federal, State, and local safety and public health agencies
- Federally-recognized tribes
- Land Owners:
  - Local (e.g., county/municipal) governments
  - > Private land owners (e.g., Native corporations)
  - Others

#### Other Stakeholders

- ➤ Area Committee/Port Safety committees and law enforcement partners
- > Commercial operators
- > Port authorities

# Process for Identification of Geographic-Specific Potential Places of Refuges within Region 9 Area Contingency Plans

#### **Purpose**

This appendix provides a framework for developing information on specific potential places of refuge in California. Following this framework will ensure that the process for developing the information and resulting documents is consistent with both the RRT9 *Guidelines for Places of Refuge Decision- Making* and all Region 9 Area Contingency Plans.

#### **Document Development**

participate in the Workgroup.

Steps necessary to develop information for specific potential places of refuge include the following:

- Establish an ACP Places of Refuge Workgroup (Workgroup) of interested and knowledgeable stakeholders.

  At a minimum, the Workgroup will include representatives from the U.S. Coast Guard, , appropriate Federal (e.g., Department of the Interior, Department of Commerce, and/or Department of Agriculture), and State (e.g., California OSPR and California State Lands Commission) and natural resource trustees.. In addition, federally recognized tribes and other interested stakeholders (e.g., safety and public health agencies) will be invited to
- Ensure the process is consistent with the RRT9 *Guidelines for Places of Refuge Decision-aking*.
- ➤ Identify type(s) of vessel (e.g., oil tankers) likely to be in need of a Place of Refuge.
- Determine environmentally and culturally sensitive areas at risk within the area.
- ➤ Identify candidate potential places of refuge and document how they meet specified criteria.
- Prepare potential places of refuge chart/table sheets for each site.
- Arrive at consensus among Workgroup members on the draft section.
- Submit the draft section to the respective Area Committee for review and approval.
- Include the document in the Potential Places of Refuge Section of the appropriate ACP following public review.

#### **Document Contents:**

- Purpose and scope—this narrative introduces the topic and describes how the document supports the RRT9 *Guidelines for Places of Refuge Decision-Making*.
- ➤ How to Use the Potential Places of Refuge—this narrative briefly describes how potential places of refuge information is used in the RRT9 *Guidelines for Places of Refuge Decision-Making*.
- ➤ How the Document was developed—this narrative outlines the process used to identify the potential places of refuge and create the supplement and identifies who participated in the process.
- ➤ Potential Places of Refuge Chart/Table Sheets—pre-identified potential places of refuge will be identified on an area index map. Specific information on each place of refuge will be documented on a one-page (two-sided) sheet containing the following:
  - One or more color navigation charts of the candidate sites in the immediate vicinity showing approaches, anchorages, moorings, docks/piers, potential grounding sites, and existing geographic response strategies; a color aerial photograph of the location; and a chart legend.
  - O Side two: Tables of information about each of the sites describing physical and operational characteristics of the sites (i.e., maximum vessel size, navigational approach, minimum water depths, maximum water depths, maximum vessel draft, swing room/dock face, bottom type, docks/piers, moorings, anchorages, firefighting anchorages, potential grounding sites, prevailing winds, currents, tides, sea conditions, shelter from severe storms and fog.); a list of stakeholders for the site; and other site considerations (i.e., health and safety, natural resources, response, and other considerations).

# U.S. Coast Guard Places of Refuge Policy

**Commandant Instruction 16451.9** 

Place of Refuge Risk Assessment Job Aid - Example from CA North Coast 2007 NPREP This page intentionally Blank



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**COMDTINST 16451.9** July 17 2007

#### COMMANDANT INSTRUCTION 16451.9

U.S. COAST GUARD PLACES OF REFUGE POLICY Subj:

Ref: (a) International Maritime Organization Resolution A.949(23), Guidelines on Places of Refuge for Ships in Need of Assistance

- (b) Marine Safety Manual, COMDTINST M16000 (series)
- (c) U.S. Coast Guard Addendum to the United States National Search and Rescue Supplement to the International Aeronautical and Maritime Search and Rescue Manual (IMSAR Manual), COMDTINST M16130.2 (series)
- (d) U.S. Coast Guard Maritime Law Enforcement Manual, COMDTINST M16247.1 (series)
- 1. PURPOSE. This Instruction provides policy guidance, a sample checklist, and a risk assessment job aid to field commanders, Area Committees, and Regional Response Teams (RRTs) to aid in preparing for and responding to a vessel requesting a place of refuge as described in reference (a), or similar events in which a vessel, not in need of immediate Search and Rescue (SAR) assistance, may pose a variety of risks to a port or coastal area. This Commandant Instruction focuses primarily on the decision process of selecting the lowest risk Place of Refuge option for a stricken vessel. In any such situation, Operational Commanders will also be conducting other, simultaneous operations, including, but not limited to, developing transit plans, staging pollution, fire, and/or hazmat response equipment, and addressing any security concerns.
- 2. ACTION. Area, district, and sector commanders of Maintenance and Logistics Commands, commanding officer of integrated support commands, commanding officers of Headquarters units, assistant commandants for directorates, Judge Advocate General, and special staff elements at Headquarters shall ensure compliance with the provisions of this Instruction. Internet release is authorized.
- 3. <u>DIRECTIVES AFFECTED</u>. None.

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#### 4. BACKGROUND.

- a. On December 5, 2003, the International Maritime Organization (IMO) adopted resolution A.949 (23), *Guidelines on Places of Refuge for Ships in Need of Assistance*, which were drawn up in response to three significant events the motor tanker (M/T) ERIKA (Dec 1999), the M/T CASTOR (Dec 2000), and the M/T PRESTIGE (Nov 2002) involving tank ship structural failures at sea. In the case of the ERIKA and PRESTIGE, both tank ships broke apart and sank, resulting in catastrophic environmental damage to coastal states due to spilled oil. The purpose of this resolution is to encourage nations to adopt systems to balance the needs of the vessel and the needs of the coastal state and make sound decisions to enhance maritime safety and the protection of the marine environment.
- b. A second IMO resolution, A.950 (23), *Maritime Assistance Services* (MAS), recommends that all coastal states establish a maritime assistance service (MAS). In the United States, Rescue Coordination Centers (RCCs) meet the intent of this resolution.
- c. These incidents demonstrated that in some circumstances, coastal states could actually increase their risk if they deny a vessel the opportunity to enter a place of refuge and make repairs, or delay a decision until no options remain. This Instruction establishes a process to support risk based planning and decision making. A repeatable, transparent process is also important in building stakeholder and public confidence in the final decision, regardless of outcome.

#### 5. DISCUSSION.

- a. Contingency Planning/Pre-Incident Surveys. Operational Commanders, including Area, District, and Sector Commanders and the Commanding Officers of Marine Safety Units and Chairs of Area Committees, and RRTs shall use this Instruction as part of their normal contingency planning process. Any evaluations of possible Places of Refuge conducted before an actual incident shall be considered "pre-incident surveys" rather than a final decision. If an actual event occurs, the Operational Commander, working within a Unified Command structure as appropriate, shall review, verify, and modify as necessary these pre-surveys. Note that the term "Place of Refuge" refers simply to a location where a ship can go so that its crew or others can stabilize the situation or make repairs. It may, but need not, include actual ports or terminals.
- b. National Response Team Place of Refuge Guidelines. The National Response Team (NRT), which includes the Coast Guard, developed and approved *Guidelines for Places of Refuge Decision-Making* (NRT Guidelines) that provides: (1) an incident-specific decision-making process to assist Coast Guard Captains of the Port in deciding whether a vessel needs to be moved to a place of refuge, and if so, which place of refuge to use; and (2) a framework for preincident identification of potential places of refuge for inclusion in appropriate Area Contingency Plans. The NRT Guidelines, (located at <a href="http://www.nrt.org">http://www.nrt.org</a>), emphasizes consultation with the Area Committees, RRTs, natural resource trustees, other stakeholders, and technical experts in the identification of potential places of refuge during pre-incident planning and during the decision-making process of an event. In general, operational commanders may use this and other planning tools that are consistent with the intent of this instruction.

- c. <u>Transit Oversight</u>. Operational commanders are expected to impose appropriate restrictions on the vessel before and during its transit to a Place of Refuge, and during any repair operations and subsequent departure. Furthermore, it may be appropriate to plan the transit in stages with appropriate requirements at each stage to allow responders to gain control and reduce risk. For example, a vessel might be required to move from open sea, to a lee, to anchor, and finally to a pier or dock, with each stage providing an opportunity to re-evaluate and take necessary actions.
- d. Risk Informed Decision Making. The Ports and Waterways Safety Act (33 USC 1221 et seq.) is a cornerstone of the Coast Guard's responsibility and authority to manage risk in coastal areas. As described in Chapter 1, Vol IX, of reference (b), the purpose of this Act is to increase navigation and vessel safety, to protect the marine environment, and to protect life, property, and structures in, on, or immediately adjacent to the navigable waters to the United States. A decision to allow a damaged vessel to enter a port area in response to a Place of Refuge request may at first seem at odds with the purpose of this Act. As officials learned with the PRESTIGE and other incidents, denying a vessel a Place of Refuge has not always led to reduced risk for a coastal area. Nonetheless, in some circumstances the lowest risk option may require the Captain of the Port (COTP) to deny entry to a vessel. A vessel should only be denied entry when the Operational Commander can, having considered all options, identify a practical and lower risk alternative to granting a Place of Refuge. Such alternatives might include continuing the voyage (independently or with assistance), directing the vessel to a specific Place of Refuge in another locale, or scuttling the vessel in a location where the expected consequences will be relatively low. Note that "continue voyage", "scuttle", and "ground" are listed as options in enclosure (2), and should be evaluated if the operational commander believes they are realistic options. Any decision to deny a vessel a Place of Refuge should be accompanied with a plan to render assistance and/or impose restrictions until the situation is ultimately resolved. An arbitrary decision to force the vessel to another locale, particularly one which may involve higher risk and/or with less capability to address the situation is unacceptable.
- e. <u>SAR</u>. Vessels requesting a Place of Refuge may also be in need of SAR assistance, either at the time the incident first occurs or at a later time as the situation develops. SAR operations will take place in accordance with reference (c). SAR authorities will closely monitor all Places of Refuge situations and be prepared to respond as necessary. Note that the IMO recommends that nations establish a MAS to serve as a national point of contact for Place of Refuge situations. In the United States, RCCs function as MASs, although decisions on Places of Refuge will generally be made at the Sector Commander/COTP/Federal On-Scene Coordinator (FOSC) level.
- f. Security Concerns. Operational Commanders shall evaluate security risks as part of the decision-making process, including the standard procedures conducted for any vessel and crew bound for the United States, such as the International Ship and Port Facility Security (ISPS) and High Interest Vessel (HIV) targeting matrices. Operational Commanders will incorporate security risks into the final decision, and may, where the risks so warrant, determine that security concerns override all other risks. In some circumstances it may be necessary to conduct security related operations, such as an escort or boarding, while simultaneously evaluating a Place of Refuge consideration, staging salvage and spill response equipment, and taking other actions. Operational Commanders are reminded of their responsibility to protect classified and sensitive

- security information. The parallel relationship between SAR, safety, environmental, and security concerns is depicted in enclosure (3).
- g. National Defense Concerns. Operational Commanders shall evaluate the risks a vessel seeking a Place of Refuge may pose to national defense, including limiting freedom of action (such as by blocking a channel), or compromising Operational Security (OPSEC) by exposing Department of Defense (DOD) or Coast Guard personnel, installations, or equipment to unacceptable surveillance. Operational Commanders shall include appropriate DOD personnel in Place of Refuge planning activities, and incorporate DOD stakeholder concerns into any final Place of Refuge decision. As in the case regarding security concerns, Operational Commanders are reminded of their responsibility to protect classified information.
- h. <u>Safety Concerns</u>. Operational Commanders shall exercise extreme caution before placing boarding officers or other Coast Guard personnel aboard a stricken vessel. Personnel safety concerns remain paramount and boarding operations shall be conducted in accordance with reference (d) and with due regard for unusual safety hazards. Survey and response operations onboard a stricken vessel shall only be conducted in accordance with an approved site safety plan. This applies equally to Coast Guard and non-Coast Guard personnel.
- i. Force Majeure. Force majeure is defined as an overwhelming force or condition of such severity that it threatens loss of the vessel, cargo or crew unless immediate corrective action is taken. A request for a Place of Refuge may be preceded by, or issued in conjunction with, a force majeure declaration. Volume VI, Chapter 1 of reference (b) discusses Coast Guard policy with respect to force majeure. In general, force majeure is a doctrine of international law which confers limited legal immunity upon vessels that are forced to seek refuge or repairs within the jurisdiction of another nation due to uncontrollable external forces or conditions. This limited immunity prohibits coastal state enforcement of its laws which were breached due to the vessel's entry under force majeure. If a vessel's master cites force majeure as a reason for entry, Sector Commanders shall consult with the servicing staff judge advocate before allowing the vessel to enter. If time and circumstances permit, Sector Commanders shall use these Place of Refuge guidelines and the Maritime Operational Threat Response (MOTR) process to reach a decision and direct the vessel to a particular location. In all cases, Sector Commanders can and shall impose appropriate requirements needed to ensure safety, security, and the protection of natural resources.

#### j. Notice of Arrival.

(1) Notice of Arrival (NOA) regulations are found in 33 Code of Federal Regulations (CFR) Part 160. Per 33 CFR 160.214, COTPs are granted the authority to waive any requirements of the NOA regulation for any vessel if the NOA requirements are "unnecessary or impractical for purposes of safety, environmental protection, or national security." An operational commander's decision to grant a waiver, such as for the 96 hour NOA time requirement, should be based on an examination of the facts and circumstances of each particular Place of Refuge request. Factors to take into account when considering a waiver include but are not limited to MARSEC level, available intelligence, and homeland security threat level. Any

- decision concerning civil penalty or similar enforcement action should likewise be made on a case by case basis.
- (2) Vessels arriving under *force majeure* may be considered exempt from NOA requirements under 33 CFR 160.203(b) (3) if they are not carrying certain dangerous cargo or controlling another vessel carrying certain dangerous cargo. Any vessel requesting a Place of Refuge will almost certainly meet the standard of a hazardous condition as defined in 33 CFR 160.204, and therefore must meet the reporting requirements of 33 CFR 160.215.
- k. Intervention on the High Seas. Volume IX, Chapter 1 of reference (b) discusses Coast Guard policy with respect to the Intervention on the High Seas Act (33 USC 1471) and the International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, 1969. In general, the convention affirms the right of a coastal State to take such measures on the high seas as may be necessary to prevent, mitigate or eliminate danger to its coastline or related interests from pollution by oil or the threat thereof, following a maritime casualty. "Interests" is defined to include (but not limited to) fisheries, tourism activities, and the health and well being of coastal populations. The measures taken must be proportionate to the threat. Note that consultation with the affected flag state is required and that the authority to take such action remains with the Commandant and has not been delegated. Sector Commanders who believe Intervention on the High Seas actions may be necessary shall notify their Operational Commander as soon as possible.
- Financial Responsibility Concerns. In general, most financial responsibility concerns
  confronting the FOSC/COTP will be satisfied provided the vessel holds a valid Certificate of
  Financial Responsibility (COFR). If a vessel requesting a Place of Refuge does not hold a valid
  COFR, Operational Commanders shall contact the National Pollution Funds Center (NPFC) to
  discuss other options before allowing the vessel to enter United States waters, and may put the
  vessel's representative in direct communication with the NPFC. Sector Commanders seeking a
  Letter of Undertaking or other surety shall consult the servicing staff judge advocate for
  guidance.

#### m. Notifications and International Coordination.

(1) The complex and sensitive nature of Place of Refuge incidents makes rapid communication with stakeholders, partner agencies, and the Coast Guard chain of command particularly important. Most Place of Refuge requests will involve foreign flag vessels. In such cases, in order to meet treaty obligations, follow established protocol, and ensure our response is consistent with foreign policy objectives, it is imperative that Sector Commanders inform Coast Guard Headquarters, via their operational chain of command, and the servicing District legal office of the facts of the situation and any proposed course of action. Within the Coast Guard, Operational Commanders shall ensure that the following offices are notified at the onset of the event, and kept informed through message traffic and other routine channels: the Coast Guard Headquarters Offices of Incident Management and Preparedness, (CG-3RPP), Law Enforcement (CG-3RPL), Operations Law Group (OLG) (CG-09412), and the Director of Inspections and Compliance (CG-3PC). The OLG duty team, in-country liaison officers

- and other in-country personnel may be reached 24 hours a day, 365 days a year, through the Coast Guard National Command Center.
- (2) When directed by competent authority, Place of Refuge incidents may by communicated via Maritime Operational Threat Response (MOTR) protocols; a national-level interagency communications process designed to achieve consistent coordinated action and desired outcomes that directly support National Security Presidential Directive-41/Homeland Security Presidential Directive-13: *Maritime Security Policy*, December 21, 2004. Strategic in nature, MOTR protocols achieve a coordinated U.S. Government response to threats against the United States and its interests' globally in the maritime domain. MOTR addresses the full range of maritime threats including terrorism, piracy, drug smuggling, migrant smuggling, weapons of mass destruction (WMD) proliferation, maritime hijacking, and fisheries incursions.
- (3) When MOTR is triggered, established protocols are put into action for initiating real-time interagency communication, coordination, and decision-making through the integrated network of command centers. MOTR events are coordinated with the National Joint Terrorism Task Force (NJTTF) or Joint Terrorism Task Force (JTTF) and agencies that typically participate in MOTR calls, depending on the threat, include but are not limited to: the Department of Homeland Security (DHS), DOD, Department of Justice (DOJ), Department of Energy (DOE), Department of State (DOS), Department of Transportation (DOT), USCG, U.S. Customs and Border Protection (CBP), Immigration and Customs Enforcement (ICE), White House Situation Room (WHSR) and the National Counterterrorism Center (NCTC). DHS, DOD and DOJ are designated lead agencies. The National Security Council and Homeland Security Council announced via memo that the President of the United States approved MOTR on October 27, 2005.
- (4) As with other pollution preparedness activities concerning events near international borders, Place of Refuge planning activities should be made in cooperation with the appropriate officials in foreign governments, and under the aegis of the governing Joint Contingency Plan (JCP). Accordingly, Regional Response Teams shall use this Instruction as part of their normal JCP planning process. U. S. Coast Guard representatives shall encourage their foreign counterparts to adopt a risk based, transparent approach to Place of Refuge planning and decisions.
- (5) In the event of a Place of Refuge situation occurring near an international border, or where a transit to a Place of Refuge will cross an international border, the U. S. Coast Guard, in accordance with the governing JCP, shall notify and cooperate with the appropriate foreign authorities, share all available information, and, in cooperation with foreign government representatives, strive to present a united and consistent set of requirements for the vessel seeking refuge.
- (6) Note that the United States is party to the *International Convention on Oil Pollution Preparedness, Response and Co-operation*, 1990. This treaty requires, among other provisions, that ships notify coastal states of pollution incidents, and that potentially impacted states share information and cooperate during the response.

- n. Captain of the Port Orders and Administrative Orders. Sector Commanders may need to direct the owners/operators of vessels seeking a Place of Refuge to take certain actions in order to reduce safety, security, or other risks. For vessels within the territorial seas, as defined in 33 CFR 2.22, or navigable waters of the United States, as defined in 33 CFR 2.36(a), Captain of the Port Orders are typically used to issue such direction. For vessels outside of the territorial seas, as defined in 33 CFR 2.22, or navigable waters of the United States, as defined in 33 CFR 2.36(a), Sector Commanders may, using the FOSC's authority, issue Administrative Orders as authorized by Section 311(c) of the Federal Water Pollution Control Act (33 U.S.C. 1321) as amended by the Oil Pollution Act of 1990. The FOSC must first determine that the action will mitigate or prevent a substantial threat of a discharge into or on the navigable waters or the exclusive economic zone of the United States. Sector Commanders should consult the servicing judge advocate before issuing direction to a vessel in Place of Refuge situations. This paragraph should not be construed as limiting other regulatory or statutory authorities the Coast Guard may have.
- o. Place of Refuge and the Incident Command System. While this document can and should be used as part of the normal planning process, when an incident actually occurs, the incident management team shall evaluate the situation, using this Instruction, and make a recommendation to the Unified Command on any Place of Refuge request by the responsible party. A proper Place of Refuge evaluation should consider input from subject matter experts from various fields and positions within the Incident Command System (ICS) structure. To avoid the distractions of current operations and planning, the Unified Command may consider forming a "future plans" unit, headed by the Deputy Planning Chief, to conduct the Place of Refuge evaluation. This cell would include necessary personnel from Operations and Planning Sections and the Command Staff. In some cases it may also be appropriate to include stakeholders (via the liaison officer) that are not otherwise part of the Unified Command. When the unit has completed its evaluation it will make a recommendation via the Planning Section Chief, to the Unified Command.
- p. <u>Local Stakeholder Concerns</u>. Place of Refuge situations can raise significant concerns among local stakeholders, who may have little understanding of the technical nature of the problem, but clearly see risks to their citizens, natural resources, and economy. Area Committees should therefore make every attempt to incorporate local stakeholders into the planning processes. This should include an explanation of risk reduction measures that will be part of any Place of Refuge decision, such as transit and salvage plans, escort requirements, or the staging of pollution response equipment. Two way communication efforts will provide a better understanding of the resources at risk, may help identify lower risk options, and will promote acceptance of the process and any final decision.
- q. <u>Urgent Situations</u>. In some cases, circumstances may be so urgent that the stakeholder consultation and formal risk analysis processes described in this Instruction are not possible, even in an abbreviated form. In such cases, Operational Commanders shall make all notifications that circumstances permit, and shall determine the best course of action based on the available information, prior Place of Refuge planning efforts, and their own professional judgment.

- 5. <u>DISCLAIMER</u>. Each COTP/FOSC has discretionary authority which should be used to best reduce risk within their area of responsibility (AOR). Nothing in this Instruction is intended to circumscribe the discretionary authority of a COTP/FOSC to address the unique safety and security situation within their AOR. This Instruction is intended only for internal guidance of Coast Guard personnel responsible for responding to a Place of Refuge request. Any requirements or obligations created by this Instruction flow only from such personnel to the Coast Guard, and the Coast Guard retains the discretion to deviate or authorize deviation from any requirements in this Instruction. This Instruction creates no duties or obligations to the public to comply with procedures described herein, and no member of the public should rely upon these procedures as a representation by the Coast Guard as to the manner in which it will respond to a Place of Refuge request.
- REQUESTS FOR CHANGES. Direct to: Places of Refuge Project Officer, Office of Incident Management and Preparedness (CG-3RPP-A), 2100 Second Street, S.W., Washington, DC 20593-0001.
- 7. <u>ENVIRONMENTAL ASPECT AND IMPACT CONSIDERATIONS</u>. Environmental considerations were examined in the development of this Instruction and have been determined to be not applicable.
- 8. FORMS/REPORTS. None.

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Encl: (1) Sample Place of Refuge Checklist

- (2) Place of Refuge Risk Assessment Job Aid
- (3) Authorities, Responsibilities, and Roles during a Place of Refuge Incident

## **Sample Place of Refuge Checklist**

	Vessel Information										
Name			Flag Official Number								
Number o	of Persons of	on Board	Location								
Crew	Passenge	rs	Longitude Latitude								
	<u> </u>		Descript	tion: e	e.g., 20 miles wes	t of Cape Disappoir	ntment				
Number Of Cr Evacuated:	ew/Passeng	ers Already									
Gross Tons	Length	Draft	Type/Service: e.g., container ship, product tanker, etc.								
Current O/S W	'X & Sea S	tate		Proje	ected O/S WX						
Owner/Operato	or/RP <sup>1</sup>	P&I Club		Class	s Society	Agent					
POC											
Phone											
Notified by vess	sel master?			1		<u>'</u>					
YesNo	0	YesN	Ю	Y	esNo	Yes	No				

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<sup>&</sup>lt;sup>1</sup> Determine which party will be acting as the responsible party and has authority to do so. Under OPA 90 the responsible party is any person owning, operating, or demise chartering the vessel.

# Complete Port State Control Safety & ISPS/MTSA targeting matrix Complete HIV targeting matrix. (Classified upon completion) Ensure vessel has a valid COFR<sup>2</sup> Cargo Bunkers Type Type Amount Amount Other HAZMAT: e.g., Ship's stores, etc. (Attach vessel's dangerous cargo manifest if available) General description of ship's condition, including any structural damage:

**Vessel Information (continued)** 

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<sup>&</sup>lt;sup>2</sup> If vessel does not hold a COFR, coordinate with NPFC and servicing legal office to arrange COFR or other coverage to the extent deemed necessary for entry.

Vessel Information (continued)						
Are there any deaths, injuries, or persons in need of medical assistance?						
If so, treat as SAR inci	ident and prosecute a	ccordingly!				
What is the nature	of the problem le	ading to a need for a Place of Refuge?				
What is the vessel	master/rep specif	ically requesting?				
	r <u>r</u> <u>r</u>	, , , , , , , , , , , , , , , , , , ,				
When did the prob	lems begin?	How long has the crew been up?				
		(fatigue concerns)				
Status of the Follo	wing Systems:					
Lifesaving (lifebo						
EPIRB, e	,					
Fire Fighting for Accommodation/	_					
Spaces	<u> </u>					
Bilge Pun	nps					
Biige i uii						
Propulsion	on					
Steering	3					
Ship's Service (	Generator					
Emergency Ge	enerator					
Measures Already collecting information		W - The attached "Rapid Salvage Survey" may assist in				
Repairs						
Ballasting						
Cargo Chifts						
Cargo Shifts						

Require the Vessel to take the following actions, as appropriate. Use an Administrative Order for vessels outside of the territorial seas and a COTP Order for vessels inside the territorial seas. The Oil Spill Liability Trust Fund (OSLTF) is available to remove an actual discharge of oil or to prevent or mitigate a substantial threat of an oil discharge.

Action	Notes
Arrange for tugs of sufficient horsepower to render necessary assistance.	
Submit a salvage plan to the Captain of the Port.	
Hire/activate an appropriate Oil Spill Response Organization.	The responsible party must notify the Qualified Individual per the Vessel Response Plan (VRP).
Hire a salvage company capable of addressing the situation.	See the International Salvage Union <a href="http://www.marine-salvage.com">http://www.marine-salvage.com</a> or the American Salvage Association <a href="http://www.americansalvage.org">http://www.americansalvage.org</a> for information about professional salvage standards, including compensation issues.
Hire a marine fire fighting company capable of addressing the situation.	See the National Fire Protection Association for information on professional standards for marine fire fighting. <a href="http://www.nfpa.org">http://www.nfpa.org</a>
Other	

The vessel's representative/responsible party must describe exactly what it is requesting with respect to a Place of Refuge, and what it intends to do there (i.e. repairs). This will require, at a minimum, a salvage plan and a transit plan, both of which will require COTP approval.

## Notifications by the COTP/FOSC

In addition to notifications required by local policy, the COTP/FOSC shall make the following notifications:

Notification	Number	Notes/Completed
District Command Center	Trumour	Notify District Command Center, ensure District prevention, response, and legal offices are notified.
Area Command Center		Will normally be notified by the District Command Center
Marine Safety Center (Salvage Engineering Response Team)	(202) 475-3400 or (202) 327-3985	Search for "Salvage Engineering" at <a href="http://homeport.uscg.mil">http://homeport.uscg.mil</a> .
National Pollution Funds Center	(202) 493-6700	http://www.uscg.mil/hq/npfc/index.htm
Appropriate Strike Team	AST (609) 724 0008 PST (415) 883 3311 GST (251) 441 6601	
Area Committee Members		
Natural Resource Trustees		
Other		

Actions by the COTP/FOSC and Unified Command (Items most relevant to making a decision regarding a Place of Refuge request)

Action	Notes/Completed
Facilitate the placement of an inspection	Entry should be made only in accordance
team on the vessel if safe to do so.	with a site safety plan.
Plot the trajectory of the vessel if it is	
drifting or at risk of losing power or	
steerage.	
Plot the trajectory of the expected spill	
from the current location.	
Plot the trajectory of the expected spill	
from each Place of Refuge under	
consideration.	
Identify and evaluate resources at risk for	
each Place of Refuge under consideration.	
Review and approve a salvage plan.	
Review and approve a transit plan.	

#### Place of Refuge Risk Assessment Job Aid

Operational Commanders should use this evaluation as part of the normal planning process through table top exercises and other scenario based planning activities. While Area Committees should take the lead in this planning, any actual event may cross Area Committee boundaries. Therefore, RRTs should review these evaluations to ensure consistent risk evaluation.

In the event of an actual Place of Refuge request, the Operational Commander should review and verify the previous work or modify it to suit the particular situation. The risk evaluation may be done by a future plans unit within the Planning Section made of subject matter experts from the Operations and Planning Sections, the Command Staff, and appropriate stakeholders. Before beginning the evaluation, use the checklist (Enclosure 1) to gather all relevant information.

The risk evaluation job aid is designed to independently evaluate the probability and consequences associated with each Place of Refuge option under consideration. The scores for each option are then combined to produce overall risk scores.

Numerical scores for each option are generated using a formulated Excel spreadsheet, which is located on both CG Central and CG Homeport. To access the spreadsheet via CG Central, log onto <a href="http://cgcentral.uscg.mil">http://cgcentral.uscg.mil</a> and follow the path: Our CG > Organizational Information > HQ Directorates > Assistant Commandant for Operations (CG-3) > Assistant Commandant for Response (CG-3R) > Office of Incident Management and Preparedness (CG-3RPP) > Places of Refuge > under "Supporting Documents" select the file labeled "Places of Refuge COMDTINST 16451.9\_Enclosure 2\_Risk Assessment Job Aid.xls." To access the spreadsheet via CG Homeport, log onto <a href="http://homeport.uscg.mil/mycg/portal/ep/home.do">http://homeport.uscg.mil/mycg/portal/ep/home.do</a> and follow the path: Missions > Environmental > Pollution > Oil > Places of Refuge > under "Supporting Documents" select the file labeled "COMDTINST 16451.9 Enclosure 2 Job Aid Excel Spreadsheet."

Because different subject matter experts may be involved in the different portions of the Place of Refuge evaluation, sections of the job aid may be completed in parallel, rather than in sequence.

The *probability* portion of the evaluation is primarily concerned with how towing, sea conditions, currents, wind, holding ground, the relative ease of conducting salvage and response operations, and other physical factors associated with a given Place of Refuge may affect the vessel. Accordingly, salvors, professional mariners and persons with expertise in engineering, ship structure, and similar fields should make this portion of the evaluation. This is in no way intended to limit the participation of others.

The *consequence* portion of the evaluation is primarily concerned with the expected harm to public health and safety, natural resources, and economic activity should an incident actually occur. Accordingly, public safety officials, natural resource trustees, and economic stakeholders should be included in the human health and safety, natural resource, and economic consequences portions respectively. This is in no way intended to limit the participation of others.

Briefly, the sequence of events is as follows: The Operational Commander shall define the worst case scenario assumption, identify any overriding national security or national defense considerations, and list the specific Place of Refuge options (locations) that the future plans unit will evaluate. The planning unit will then evaluate the risk associated with each option identified by the Operational Commander. Finally, the Operational Commander will verify the work of the planning unit, and set conditions and requirements on how and when the stricken vessel will enter the designated Place of Refuge.

*Note on weighting factors*: The weighting factors for the consequences tables have been calculated with a hierarchy which favors human health and safety over natural resources and natural resources over economic losses. This hierarchy will not pre-determine the final decision however, because scores for all categories will be calculated and considered during the process.

**Step 1, Define the Scope and Scale of the Evaluation:** The process begins when the Operational Commander determines the "worst case scenario" the group will use as a planning assumption, and lists the potential Place of Refuge locations that the group will evaluate. Taken together, these two decisions define the scope and scale of the evaluation. The Incident Commander shall make these determinations based on available information and the input of professional mariners, pilots, and salvage and response experts.

**Step 1.1**: Identify the "worst case scenario" that one may reasonably expect. This might otherwise be defined as a significant worsening of the vessel's condition and the associated results. Make <u>conservative but realistic</u> assumptions about the vessel's current status, how the situation may worsen, and the likely results. For example, determine if the loss of the entire vessel is possible, how much cargo/hazmat is onboard, and if fire or explosion is possible. Use these assumptions to define the "worst case scenario" for the incident. Evaluators should apply this definition consistently throughout the risk evaluation process. Define the scenario below:

**Step 1.2**: The Incident Commander shall designate a limited number of <u>potential</u> Places of Refuge that the group will evaluate. Prior Place of Refuge and other planning activities, taken in combination with the current situation and the vessel's location should provide an adequate number of options. Unless clearly ruled out by the circumstances, "continue voyage" and "repair in place" should be included so that the risks with these options can be evaluated. "Grounding" and "scuttle" need only be considered if those options, however undesirable, may be preferable to taking no action. If needed, either of these options may be lined out on the tables and replaced with an additional POR to evaluate.

Indicate below which of the following Place of Refuge options will be evaluated.

Vessel Continues its voyage (deny entry) <sup>1</sup>
Vessel Remains in its current location (repairs made in place)
Vessel is taken out to sea and scuttled at a given location
Vessel is intentionally grounded at a given location
Vessel is taken to a place of refuge at:
Vessel is taken to a place of refuge at:
Vessel is taken to a place of refuge at:

<sup>&</sup>lt;sup>1</sup> Note: A continue voyage/deny entry decision should be accompanied with a plan to render assistance and impose restrictions until the situation is ultimately resolved.

**Step 2 - Probability**: For the probability component of risk, consider the likelihood (probability) that the <u>scenario defined in step 1.1 above</u> may occur for each Place of Refuge (POR) option being considered. The probability of such an incident may be different for different Place of Refuge options due to environmental factors, such as wind and sea conditions both at the Place of Refuge and during any transit, and by the degree of difficulty and complexity in conducting repair or salvage operations at a given POR.

**Step 2.1** – Consider how each of the following factors may affect the probability of the proposed scenario occurring, using the following scale:

1	Ideally suited to addressing situation, equipment readily staged and deployed
2	Acceptable under prevailing and expected conditions
3	Poorly suited, additional measures or procedures will be needed
4	Poorly suited to addressing situation even w/additional measures; equipment
	staged/deployed only with great difficulty
5	Completely unsuitable or unavailable to address situation

Evaluators should assign a higher score only where the factor would actually increase the likelihood of an incident, independent of cost or convenience.

Table 2-A. Add any additional factors relevant to the current situation at the bottom of the table.

Physical Attributes and Port Services	POR A	POR B	Continue Voyage	Repair in Place	Scuttle <sup>2</sup>	Ground
Transit Difficulty						
Holding Ground						
Expected Winds						
Expected Sea State						
Tides and Currents						
Cargo Offload						
Cargo Storage						
Docking Facilities						
Salvage Equipment						
Spill Equipment						
Security Concerns						
Total						

Total the scores for each Place of Refuge option under consideration. Lower scores indicate options less likely to result in a significant worsening of the vessel's condition.

<sup>&</sup>lt;sup>2</sup> Per step 1.2, "scuttle" and "ground" may be lined out on this and all subsequent tables if they are not viable options and space is needed to evaluate other specific POR options.

**Step 2.2** – The numbers recorded in table 2-A above does not translate directly into a probability score, they are only intended to help the stakeholders consider the various factors that may influence the probability that the ship's condition will significantly worsen for each of the COAs under consideration.

Having considered the various factors that may affect the likelihood of a further worsening of the vessel's situation; assign a probability score for each COA using the criteria below.

Highly Probable	Almost certain an incident will occur	0.9
Probable	More than 50% likelihood that an incident will occur	0.75
Equal probability	Approximately 50% likely that an incident will occur	0.5
Unlikely	Less than 50% likelihood than an incident will occur	0.25
Improbable	Incident not expected to occur under prevailing and expected conditions	0.05

Table 2-B

Course of Action	Probability Score
Vessel Continues its Voyage	
Repairs Made in Current Location	
Vessel is Taken to Place of Refuge A	
Vessel is Taken to Place of Refuge B	
Vessel is scuttled at a given location <sup>3</sup>	
Vessel is grounded at a given location	

<sup>&</sup>lt;sup>3</sup> For this COA, the probability will be 100% unless the situation is such that scuttling might result in a more controlled release of pollutants than would be the case if no action were taken.

**Step 3 - Consequences**: For the consequence component of risk, appropriate stakeholders will determine the level (scale) of consequences that can reasonably be expected if an "incident" – defined as a significant worsening of the vessel's condition – occurs. Stakeholders will assess the scale of expected consequences for the following three categories:

- Human Health and Safety, including the safety of the crew, professional responders, and the public at large
- Natural Resources, including threatened and endangered species, subsistence species, commercial species, habitat, and cultural resources
- Economic Impacts, including commercial shipping and fishing, marine tourism and recreational fishing, and non-marine related economic activities

**Step 3.1** – Begin by evaluating the potential consequences to human health and safety using Table 2-C below (or attached Excel table). While few credible Place of Refuge scenarios will include significant health and safety consequences to the general public, the National Contingency Plans properly lists the safety of human life as the top priority during every response action (40 CFR 300.317). Score using the following criteria:

2	No credible threat to human health and safety
4	Minor injuries to a few individuals, exposure to hazmat below PEL/STEL
8	Serious but non-life threatening injuries, hazmat exposure beyond PEL/STEL
16	Some deaths and/or significant injuries/ hazmat exposure beyond IDLH to small
	groups or lesser exposure to large groups
32	Many deaths, serious injuries, or life threatening health concerns

Table 2-C

Raw score	POR A	POR B	Continue	Repair in	Scuttle	Ground	Weight
			Voyage	Place			
General							10
population							
Response							9
personnel							
Vessel							9
crew							

Weighted	POR A	POR B	Continue	Repair in	Scuttle	Ground
Score			Voyage	Place		
General						
Population						
Response						
Personnel						
Vessel						
Crew						
Total						

**Step 3.2** - Evaluate the likely consequences to each category of <u>natural resources</u> and for each COA being considered using the table below, or the attached Excel spreadsheet. Score each item as follows:

2	No expected exposure of the natural resource in question
4	Minimal exposure, impact expected to be local and short term
8	Moderate exposure, measurable impact over a larger area or longer time
16	Significant exposure, regional impact and/or multi-year recovery period
32	High exposure, impact could cause the long term collapse over a large area

Table 2-D

Raw Score	POR A	POR B	Continue Voyage	Repair in Place	Scuttle	Ground	Weight
Threatened and endangered species							8
Critical habitat for TAES							10
Sensitive (non protected) species							6
Critical habitat for sensitive, (non protected) species							5
Historic or cultural resources							10
Subsistence use species							8
Subsistence use critical habitat							10
Commercial species							6
Essential fish habitat							3
Recreational use/activities							3
Other natural resources							3

**Step 3.2** (continued) – Record the weighted scores in the following table, or by using the attached Excel spreadsheet.'

Weighted	POR A	POR B	Continue	Repair in	Scuttle	Ground
Score			Voyage	Place		
Protected						
Species						
Critical habitat						
for protected						
species						
Sensitive (non						
protected)						
species						
Critical habitat						
for sensitive,						
(non protected)						
species						
Historic or						
cultural						
resources						
Subsistence						
use species						
Subsistence						
use critical						
habitat						
Commercial						
species						
Critical habitat						
for commercial						
species						
Other natural						
resources						
Total						

**Step 3.3** – Evaluate the potential <u>economic consequences</u> to each category of economic activities for each COA being considered using the table below. Consider direct impacts to critical infrastructure, but avoid undue speculation concerning cascading economic disruption. Score each item as follows:

2	No expected impact on the economic activity in question
4	Minor – local area, few businesses, and/or short term
8	Moderate – regional area, many business, and/or longer term
16	Major – significant impacts on region/economic sector for several weeks
32	Severe – will affect regional activity for several months or longer

Table 2-E

Raw Score	POR A	POR B	Continue	Repair in	Scuttle	Ground	Weight
			Voyage	Place			
Maritime							4
commerce and							
shipping							
Commercial							4
fishing and							
aquaculture							
Recreational							4
fishing, marine							
tourism							
Non-maritime							4
activities and							
commerce							
Other							1

Weighted	POR A	POR B	Continue	Repair in	Scuttle	Ground
score			Voyage	Place		
Maritime						
commerce and						
shipping						
Commercial						
fishing and						
aquaculture						
Recreational						
fishing, marine						
tourism						
Non-maritime						
activities and						
commerce						
Other						
Total						

## **Step 4- Combined Risk Score**

**Step 4.1** — Record the probability for each Place of Refuge option, and the associated consequence score for each type of consequence from previous tables.

	Probability Score	Health and Safety	Natural Resources	Economic Activity
Place of Refuge A				
Place of Refuge B				
Continue Voyage				
Repair in Place				
Scuttle				
Ground				

**Step 4.2** — Calculate the risk for each type of consequence, and the total risk for each Place of Refuge in the table below. Risk = Probability \* Consequences.

		Risk by (	Consequence	Туре	
	Probability Score	Human Health and Safety	Natural Resources	Economic Activity	Total Risk
Place of Refuge A					
Place of Refuge B					
Continue Voyage					
Repair in Place					
Scuttle					
Ground					

**Step 4.3** – Combine Probability and Consequence scores and determine the lowest risk Place of Refuge option. Decision makers are advised to consider each category individually, not just the lowest total risk score. For example, a Place of Refuge option with the lowest total risk might still have an unacceptably high Human Health and Safety risk relative to other options. Also, as previously discussed in this instruction, the Operational Commander shall consider security and national defense risks in making a final decision.

Attach this form to the signed Incident Action Plan to document approval of the final decision.

## Authorities, Responsibilities, and Roles during a Place of Refuge Incident

Shaded areas indicate "lead" at the given stage of the operation

	SMC/SAR	COTP/Force	FOSC/Places of	FMSC/Security
		Majeure	Refuge	Concerns
Stage 1: SAR		Monitor and assist	Monitor and assist. Notify trustees, stakeholders, and RRT of potential for POR concern	Monitor and assist. Identify any security issues
State 2: Force Majeure	Monitor and assist		Monitor and assist. Notify trustees, stakeholders, and RRT of potential for POR concern	Monitor and assist. Impose any necessary security restrictions
Stage 3: Place of Refuge Request Assessment	Monitor and assist			Monitor and assist. Impose any security restrictions required to allow transit to proceed as planned.
Stage 4: Vessel Transit	Monitor and assist			Monitor and assist. Conduct positive control boarding or other ops necessary for secure transit.
Stage 5: Response	Monitor and assist			Monitor and assist
Stage 6: Follow-Up	Monitor and assist		Focus on Natural Resource Damage Assessment (NRDA), claims, restoration, and other long term concerns	Monitor and assist
State 7: Conclusion	Monitor and assist			Monitor and assist
Stage 8: Lessons Learned		_		

All agencies, Commands, authorities, and personnel are expected to act with a *Unity of Effort* to resolve the situation with due regard to safety, security, and stewardship.

# Place of Refuge Risk Assessment Job Aid Example from

2007 NPREP - Smith River

#### California North Coast ACP 1

The North Coast Area Contingency Plan was tested in 2007 in Crescent City, Del Norte County. A simulated collision between a north-bound barge under tow and a San Francisco bound container ship. The example Place of Refuge Risk Assessment Job Aid displays the assessment of options for the simulated south-bound container vessel "Black Pearl." The vessel was simulated to be about 800 feet long with a laden depth of about 40 feet. The ship's full load of containers were bound for Oakland and had a simulated U.S. Customs scheduled arrival at that location. The weather was simulated to be foggy and calm at the time of collision but forecast to deteriorate in as short interval to very aggressive conditions. The leak in the bow of the ship was simulated to have released intermediate fuel oil but the lead was control and the ship had no serious simulated damages. The release was controlled and leaking minimized/ nominalized in the first day of response.

Assessments were simulated but in some instances experts were available to provide valid input. Salvors were engaged in this drill and provided realistic concerns and limitations for managing the damaged vessels. Natural resource trustees from Federal and State agencies were involved in simulated assessments of environmental assessments. There was no thorough vetting of economic concerns by stakeholders. Regional Response Teams from both Federal Region 9 and 10 were engaged as well.

### Place of Refuge - Probability Determination

Consider how each of the following factors may affect the probability of an incident (significant worsening of the vessel's condition) using the following scale:

- 1. Ideally suited to addressing situation, equipment readily staged and deployed, or N/A for current situation
- 2. Acceptable under prevailing and expected conditions
- 3. Poorly suited, additional measures or procedures will be needed
- 4. Poorly suited to addressing situation even w/additional measures; equipment staged/deployed only with great difficulty
- 5. Completely unsuitable or unavailable to address situation

physical attributes and port services	Oakland Inner	Oakland Outer	SF South Army Pier	SF Anchorage	Humboldt	ground
transit difficulty	2	2	2	2	4	
holding ground						
expected winds	2	2	2	2	1	
expected sea state	2	2	2	2	1	
tides and currents	1	1	1	1	1	
cargo offload	1	1	1	5	5	
cargo storage	1	1	1	5	1	
docking facilities	1	1	1	1	2	
salvage equipment	2	2	1	2	3	
spill equipment	3	1	2	3	3	
Security Concerns	2	2	2	2	2	
Total	17	15	15	25	23	0

Likelihood of an incident occurring	Description/Definition	Probability Score
Highly Probable	Almost certain an incident will occur	0.9
Probable	More than 50% likelihood that an incident will occur	0.75
Equal probability	Approximately 50% likely that an incident will occur	0.5
Unlikely	Less than 50% likelihood than an incident will occur	0.25
Improbable	Incident not expected to occur under prevailing and expected conditions	0.05
<u></u>	•	

	Course of Action	Probability
		Score
1	Place of Refuge A	0.25
	Oakland Outer	0.25
	SF Sth Army Pier	0.25
	SF Anchorage 9	0.25
	Humboldt Bay	0.75
	Continue Voyage	0.25
	Repair in Place	1
	Scuttle	1
	Ground	1

## Place of Refuge - Human Health and Safety Considerations

#### Use the following criteria:

- 2. No expected threat to human health and safety
- 4. Minor injuries to a few individuals, exposure to hazmat below PEL/STEL possible
- 8. Serious but non-life threatening injuries, hazmat exposure beyond PEL/STEL possible
- 16. Some deaths and/or significant injuries/ hazmat exposure beyond IDLH to small groups or lesser exposure to large groups possible
- 32. Many deaths, serious injuries, or life threatening health concerns possible.

			Co	onsequenc	e Score for	each COA				
	Oakland Inner	Oakland Outter	SF S Army P 80	SF Anch 9		continue voyage	repair in place	scuttle	ground	weight
General Population	4	4	4	4	4	4	8	8	8	10
Response Personnel	2	2	2	2	2	2	16	8	8	9
Vessel Crew	4	4	4	4	4	4	8	8	8	9

			W	eighted S	Score for 1	Each COA			
	Oakland	Oakland	SF S Army	SF	Humoldt	continue	repair	scuttle	ground
	Inner	Outter	P 80	Anch 9	Bay	voyage	in place	scuttle	ground
General Population	40	40	40	40	40	40	80	80	80
Response Personnel	18	18	18	18	18	18	144	72	72
Vessel Crew	36	36	36	36	36	36	72	72	72
Total	94	94	94	94	94	94	296	224	224

#### Place of Refuge - Natural Resource Considerations

Use the following criteria:

- 2-No expected impact to the natural resource in question
- 4 Minimal exposure, impact expected to be local and short term.
- 8 Moderate exposure, measurable impact over a larger area or longer time
- 16 Significant exposure, regional impact and/or multi-year recovery period
- 32 High exposure, impact could cause the long term collapse over a large area

Note: Evaluators may wish to assign a higher rating for a given COA if the natural resources of the area expected to be impacted have not been identified, or if response strategies have not been developed.

				Raw Consequen	ce Score for ea	ch COA				
Natural Resources	Oakland Inner	Oakland Outer	SF South Army Pier	SF Anchorage	Humboldt	continue voyage	repair in place	scuttle	ground	weight
threatened and endangered species (TAES)	16	16	16	16	32	16	32	32	32	10
critical habitat	8	8	8	16	8	8	8	8	8	10
Sensitive (non-protected) species	32	32	32	32	16	32	32	32	32	5
Critical habitat for non- protected species	8	8	8	8	8	4	4	4	4	6
Historic/Cultural resources	2	2	2	2	4	2	4	4	16	10
Subsitance use species	2	2	2	2	4	2	4	4	4	8
critical habitat for subsistance species	2	2	2	2	4	2	4	4	4	10
Commercial species (e.g. fishing)	4	4	4	4	4	4	4	2	4	6
essential fish habitat	4	4	4	4	8	4	8	8	8	3
recreational specicies and habitat	4	4	4	4	4	4	4	4	4	3
Other - contaiment success*	8	2	4	8	8	32	32	32	16	5

<sup>\*</sup> Rating criteria for "Other - Containment success" - California Assessment Feature

- 2 high containment little or no loss
- 4 mostly contained some escapement likely with local impacts
- 8 good containment mostly contained, mostly confinable and skimmable locally
- 16 partial containment continuous escapement, likely to expand throughout local area despite skimming
- 32 containment unlikely wide ranging slick with no control likely

SF South Army 160 80 160 48	SF Anchorage 9 160 160 160 48	Humboldt 320 80 80	continue voyage 160 80 160	repair in place 320 80 160	scuttle  320  80  160	ground 320 80 160
80 160	160 160	80 80	80	80	80	80
160	160	80				
			160	160	160	160
48	10					
	48	48	24	24	24	24
20	20	40	20	40	40	160
16	16	32	16	32	32	32
20	20	40	20	40	40	40
24	24	24	24	24	12	24
12	12	24	12	24	24	24
12	12	12	12	12	12	12
20	40	40	160	160	160	80
	16 20 24 12 12 20	16     16       20     20       24     24       12     12       12     12       20     40	16     16     32       20     20     40       24     24     24       12     12     24       12     12     12	16     16     32     16       20     20     40     20       24     24     24     24       12     12     24     12       12     12     12     12       20     40     40     160	16     16     32     16     32       20     20     40     20     40       24     24     24     24     24       12     12     24     12     24       12     12     12     12     12       20     40     40     160     160	16     16     32     16     32     32       20     20     40     20     40     40       24     24     24     24     12       12     12     24     12     24     24       12     12     12     12     12     12       20     40     40     160     160     160

592 562 572 672 740 688 916 904 956

Place of Refuge - Economic Considerations

Use the following criteria:

2 – No expected impact on the activity

4-Minor-local area, few businesses, and/or short term

8 - Moderate - regional area, many business, and/or longer term

16-Major-significant impacts on region/economic sector for several weeks 32-Severe, impact will affect regional activity for several months or longer

voyage         place         scurre         ground           2         8         8         4           4         8         8         8           4         2         2         4           4         2         2         4           4         2         2         4           4         2         2         4	Economic Impacts - raw   Oakland   Oakland	Oakland	Oakland	SF South	SF	U.mboldt	continue	repair in	0144100	banoas	tdviou
ing commerce and ing 2 2 2 2 2 2 2 individual fishing and 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	score	Inner	Outer	Army Pier	Anchorage 9	Humbolat		place	Scuttle	ground	weigin
ing 2 2 2 2 2 2 2 nercial fishing and 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	maritime commerce and										
commercial fishing and aquaculture         4	shipping	2	2	2	2	2	2	8	8	4	4
aquaculture         4         4         4         4         4         4         4         8         8         8         8         8           recreational fishing and marine tourism         4 <td< td=""><td>commercial fishing and</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	commercial fishing and										
recreational fishing and marine tourism         4	aquaculture	4	4	4	4	4	4	~	8	8	4
marine tourism         4         4         4         4         4         4         4         4         4         4         4         4         4         4         4         2         4	recreational fishing and										
non-maritime commerce         4         4         4         4         2         4         2         4           other         0 <td>marine tourism</td> <td>4</td> <td>4</td> <td>4</td> <td>4</td> <td>4</td> <td>4</td> <td>2</td> <td>2</td> <td>4</td> <td>4</td>	marine tourism	4	4	4	4	4	4	2	2	4	4
other	non-maritime commerce	4	4	4	4	2	4	2	2	4	4
	other										1

Economic Impacts -	Oakland	Oakland Oakland	SF South	m SF	Humboldt	continue	repair in	6011410	parioas
weighted score	Inner	Outer	Army Pier	Anchorage 9	TIMINOOIM	voyage	place	scuttle	ground
maritime commerce and									
shipping	8	8	8	8	8	8	32	32	16
commercial fishing and									
aquaculture	16	16	16	16	16	16	32	32	32
recreational fishing and									
marine tourism	16	16	16	16	16	16	8	8	16
non-maritime commerce	16	16	16	16	8	16	8	8	16
other	0	0	0	0	0	0	0	0	0

008	Economic Consequences Total	26	26	99	26	<b>48</b>	26	80	<b>8</b>

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## Place of Refuge Summary Sheet

		Consequence Scores				
	Probability	Health and	Natural	Economic		
	Score	Safety	Resources	Impacts		
Oakland Inner	0.25	94	592	56		
Oakland Outter	0.25	94	562	56		
SF South pier 80 Army	0.25	94	572	56		
SF Anchorage 9	0.25	94	672	56		
Humboldt Bay	0.75	94	740	48		
Continue Voyage	0.25	94	688	56		
Repair in Place	1	296	916	80		
Scuttle	1	224	904	80		
Ground	1	224	956	80		

The above table shows the probability for each Place of Refuge Option, and the consequence score for each type of consequence.

The below table shows the total risk for each Place of Refuge Option, and the risk for each consequence type. Decision makers are advised to consider each category individually, not just the lowest total risk score. For example, a Place of Refuge option with the lowest total risk might still have an unacceptably high Human Health and Safety risk relative to other options.

		Risk	Risk by Consequence Type			
	Probability Score	Health and Safety	Natural Resources	Economic Impacts	Total Risk	
Oakland Inner	0.25	24	148	14	186	
Oakland Outter	0.25	24	141	14	178	
SF South pier 80 Army	0.25	24	143	14	181	
SF Anchorage 9	0.25	24	168	14	206	
Humboldt Bay	0.75	71	555	36	662	
Continue Voyage	0.25	24	172	14	210	
Repair in Place	1	296	916	80	1292	
Scuttle	1	224	904	80	1208	
Ground	1	224	956	80	1260	